

CS110-02

Quiz

Monday, March 21, 2016

Name:

Below is the code for making a square grid from the last class.

1. Modify the code so that an array of N random colors is declared globally and created in setup after the sketch size and N are set. Then set the color to one of the random colors based on i, j, or a combination of i and j.
2. Add code so that each cell rotates 1 degree around it's origin.
3. Add code so that the whole grid rotates -1 degree around the center of the sketch.

```
void setup() {
    size(800,800);
}
void draw() {
    background(255);
    float numSquares = 30;
    float cellWidth = width/numSquares;
    float cellHeight = height/numSquares;
    // i does the columns
    for(int i = 0; i < numSquares; ++i) {
        // j does the rows
        for(int j = 0; j < numSquares; ++j) {
            pushMatrix();
            translate(cellWidth*i,cellHeight*j);
            rect(0,0,cellWidth,cellHeight);
            popMatrix();
        }
    }
}
```

```
// the number of cells per row and the number of columns.
float numSquares;

void setup() {
  size(800,800);
  numSquares = 30; // initialize numSquares
}

void draw() {
  background(255); // set the background to white

  // size each cell
  float cellWidth = width/numSquares;
  float cellHeight = height/numSquares;

  // i does the columns
  for(int i = 0; i < numSquares; ++i) {

    // j does the rows
    for(int j = 0; j < numSquares; ++j) {

      pushMatrix(); // start modified coordinate system

      translate(cellWidth*i,cellHeight*j);

      rect(0,0,cellWidth,cellHeight);

      popMatrix(); // revert to previous coordinate system
    }
  }
}
```